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joist *a* is tightly held, as in fig. 1, with the partition *k* lying flat and close on it. In the space above this partition is placed another snail, level with the floor-boards; it is turned by an axis *o*, which rises through the middle neck *f*; and on the top of the cramp is laid a sliding-plate *p*, seen best in figs. 3 and 4, it having a hole through which the neck *f* rises; this hole is elongated enough to let the plate slide. The front of this plate hangs down, as in fig. 4, to interpose itself between the upper snail and the board *b*: against this portion the snail acts, and spreads its pressure on the board *b*; therefore, as soon as the clamp has been fixed to the joist by the lever *n* on the axis *g*, that lever is removed to the axis *o*, and the floor-board pressed close home, ready for nailing. ' After the plate *p* has been put over the neck *f*, it is followed by a soft iron ring *q*, which is driven tight on to the neck *f*, so as to become a flanch, and keep the plate *p* in place.

The snails are of course made of such a rate as not to move of themselves so as to lose hold, yet they are very easily loosened by the lever, and less than one turn always serves to bind them tight.

No. V.

SASHES FOR GOTHIC WINDOWS.

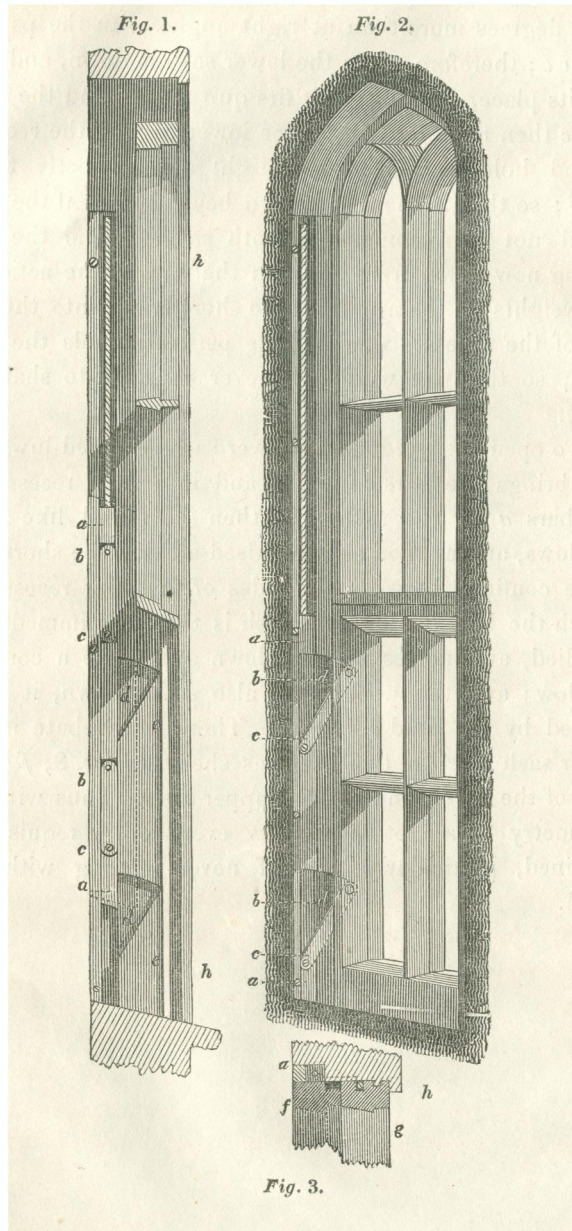
The SILVER ISIS MEDAL was voted to Mr. J. HALL, Jun., of Plymouth, for his improved Sashes for Gothic Windows; a Model of which has been placed in the Society's Repository.

ORDINARY square windows are so incapable of any beauty in their design, that the circumstance of the lower

sash not being under or flush with the upper one, is scarcely noticed as an additional deformity. But the Gothic window, from its variable mullions, pointed arch, and surrounding mouldings, is, by due proportioning its parts, capable of perfect union in its design with the whole building. In this case any deviation from its character is felt as a deformity; and particularly so if the lower sash is placed for its whole thickness within the other in the position requisite for sliding up, because the extra thickness added to the lower half, in order to allow the upper sash to slide down, is, from its nature and purpose, incapable of blending into or uniting with those proportions that constitute beauty in the mouldings.

The object of Mr. Hall's sash is to obtain both conditions; namely, the facility of sliding up or down like ordinary windows, and yet to become flush when down, so as to agree perfectly with the mouldings, and thereby preserve all the exterior beauty.

For this purpose, instead of the sash fitting the inner recesses, two bars, about the length of the lower sash, are made to slide in them, the weight-lines being fixed to the top of these bars: *a a* shews one of them; they both have two recesses *b b* to receive the short parallel bars *c c*: these are jointed at *c* to the bar *a*. Fig. 1, is a section without the lower sash, the bar *a* being a little slid up. Fig. 2, is a perspective view, with the window shut. Fig. 3, a horizontal section of one side. When the sliding bar *a* is down, its recesses *b b* correspond with the recesses *d d* in the window frame, as shewn in fig. 2; the short parallel bars *c c* then have liberty to fall from the recesses *b* into *d* (as in fig. 2, where their upper ends are shewn by dotted lines), to be jointed to the sash frames. The junction of the two sashes is made to slope so as to be two or



three degrees more than at right angles with the parallel bars *c c* ; therefore, when the lower sash is down, and falls into its place, as in fig. 2, it fits quite close, and the short bars *c* then rest on the ledge or lower part of the recesses *d*, and hold the sash quite tight and correctly to its place ; so that it could never go beyond even if the bead *h* had not been common to both sashes ; and the sash having now fallen from between the bars *a*, the action of the weights on them wedges the short bars *c* into the corner of the recesses *d*, and more perfectly holds the sash close, so that the wind can never cause it to shake or rattle.

To open the window, the lower sash is pulled inwards : this brings the bars *c* upright and into their recesses in the bars *a a* ; the sash may then be raised like other windows, and as soon as it is raised a little, the short bars *c* are confined between the sides of the long recesses in which the bars *a* slide ; the sash is therefore immediately steadied, and moves up and down quite like a common window ; and the upper sash also slides down, it being guided by the bead *e e* fig. 1. There is a rebate in the lower sash to clear this bead, as shewn in fig. 3, *f* being part of the lower, and *g* of the upper sash. Thus with the symmetry of a Gothic window every other requisite is obtained, particularly that of never rattling with the wind.
